

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. (Previously Presented) A method for deuteration of a compound represented by the general formula [1]:



wherein, R¹ represents an alkyl group, an alkyl group having at least one carbon-carbon double bond and/or at least one triple bond, an aralkyl group, or an aralkyl group having at least one carbon-carbon double bond and/or at least one triple bond; R² represents an alkyl group or an alkyl group having at least one carbon-carbon double bond and/or at least one triple bond, an aryl group, an aralkyl group, an alkoxy group, an aryloxy group or a hydroxyl group; X represents a carbonyl group or a hydroxymethylene group; R¹ and R² may form an alicyclic ring together with a carbon atom contained in X; provided that R² represents an alkyl group, an alkyl group having at least one carbon-carbon double bond and/or at least one triple bond, an aryl group or an aralkyl group when X is a hydroxymethylene group,

comprising reacting the compound represented by the general formula [1] under neutral condition with a deuterated solvent other than D₂O₂ in the co-presence of only one activated catalyst selected from a palladium catalyst, a platinum catalyst, a rhodium catalyst, a ruthenium catalyst, a nickel catalyst and a cobalt catalyst;

provided that when the compound represented by the general formula [1] has at least one carbon-carbon double bond and/or at least one triple bond, the catalyst activated in advance is used as the activated catalyst.

2. (Original) The method for deuteration according to claim 1, wherein X is a carbonyl group in the general formula [1].

3. (Original) The method for deuteration according to claim 1, wherein X is a hydroxymethylene group in the general formula [1].

4. (Canceled)

5. (Previously Presented) The method for deuteration according to claim 1, wherein the deuterated solvent is deuterium oxide (D₂O).

6. (Previously Presented) The method for deuteration according to claim 1, wherein the only one activated catalyst is one obtained by activating a non-activated catalyst selected from a palladium catalyst, a platinum catalyst, a rhodium catalyst, a ruthenium catalyst, a nickel catalyst and a cobalt catalyst by contacting with hydrogen gas or heavy hydrogen gas.

7. (Previously Presented) The method for deuteration according to claim 6, wherein the contact of the non-activated catalyst with hydrogen gas or heavy hydrogen gas is conducted in a deuteration reaction system.

8. (Previously Presented) The method for deuteration according to claim 1, wherein the only one activated catalyst is a catalyst comprising an activated palladium based catalyst.

9. (Original) The method for deuteration according to claim 8, wherein the activated palladium based catalyst is an activated palladium carbon.

10. (Canceled)

11. (Currently Amended) A method for deuteration of a compound represented by the general formula [1]:



wherein, R¹ represents an alkyl group, an alkyl group having at least one carbon-carbon double bond and/or at least one triple bond, an aralkyl group, or an aralkyl group having at least one carbon-carbon double bond and/or at least one triple bond; R² represents an alkyl group or an alkyl group having at least one carbon-carbon double bond and/or at least one triple bond, an aryl group, an aralkyl group, an alkoxy group, an aryloxy group or a hydroxyl group; X represents a carbonyl group or a hydroxymethylene group; R¹ and R² may form an alicyclic ring together with a carbon atom contained in X; provided that R² represents an alkyl group, an alkyl group having at least one carbon-carbon double bond and/or at least one triple bond, an aryl group or an aralkyl group when X is a hydroxymethylene group,

comprising reacting the compound represented by the general formula [1] under neutral condition with a deuterated solvent other than D₂O in the co-presence of only one activated catalyst;

provided that when the compound represented by the general formula [1] has at least one carbon-carbon double bond and/or at least one triple bond, the catalyst activated in advance is used as the activated catalyst, and

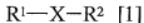
the compound represented by the general formula [1] is tricyclo[5.2.1.0^{2,6}]decan-8-ol, and the activated catalyst is a catalyst comprising palladium carbon.

12. (Original) Tricyclo[5.2.1.0^{2,6}]decan-8-ol wherein deuteration ratio thereof is 60% or more.

13. (Previously Presented) The method for deuteration according to claim 1, provided that when the compound represented by the general formula [1] has at least one carbon-carbon double bond and/or at least one triple bond, hydrogen gas or heavy hydrogen gas is not present in a deuteration reaction system.

14. (Previously Presented) The method for deuteration according to claim 1, wherein the only one activated catalyst is a catalyst comprising an activated platinum catalyst.

15. (Previously Presented) A method for deuteration of a compound represented by the general formula [1]:



wherein, R^1 represents an alkyl group, an alkyl group having at least one carbon-carbon double bond and/or at least one triple bond, an aralkyl group, or an aralkyl group having at least one carbon-carbon double bond and/or at least one triple bond; R^2 represents an alkyl group or an alkyl group having at least one carbon-carbon double bond and/or at least one triple bond, an aryl group, an aralkyl group, an alkoxy group, an aryloxy group or a hydroxyl group; X represents a carbonyl group or a hydroxymethylene group; R^1 and R^2 may form an alicyclic ring together with a carbon atom contained in X ; provided that R^2 represents an alkyl group, an alkyl group having at least one carbon-carbon double bond and/or at least one triple bond, an aryl group or an aralkyl group when X is a hydroxymethylene group, comprising reacting the compound represented by the general formula [1] under neutral condition with a deuterated solvent in the co-presence of an only one activated catalyst; provided that when the compound represented by the general formula [1] has at least one carbon-carbon double bond and/or at least one triple bond, the catalyst activated in advance is used as the activated catalyst, and

the compound represented by the general formula [1] is tricyclo[5.2.1.0^{2,6}]decan-8-ol, and the activated catalyst is a catalyst comprising platinum carbon.

16. (New) The method for deuteration according to claim 1, wherein the deuterated solvent is other than D₂ and D₂O₂, and the reaction is carried out in an absence of an alkali metal deuterioxide.

17. (New) The method for deuteration according to claim 1, wherein the compound is at least one selected from the group consisting of the compound that is decomposable with D₂O₂ and the compound that has in the general formula [1] at least one bond selected from the group consisting of a carbon-carbon double bond and a carbon-carbon triple bond.